9-12.S.1.1. Students are able to **explain** ethical roles and responsibilities of scientists and scientific research.

Webb Level: 3
Bloom: Application

Verbs Defined:
Explain - give reasons for

Key Terms Defined:
Ethical roles and responsibilities of scientists - behavioral standards in the conduct of scientific inquiry involving the sharing and accuracy of data, acknowledgement of sources and following applicable laws

Ethical roles and responsibilities of scientific research - consideration of ethical issues involving animal and human subjects and dealing with the management of hazardous materials and wastes.

Teacher Speak:
Students will be able to explain (give reasons for):
- ethical roles and responsibilities of scientists (behavioral standards in the conduct of scientific inquiry involving the sharing and accuracy of data, acknowledgement of sources and following applicable laws),
- ethical roles and responsibilities of scientific research (consideration of ethical issues involving animal and human subjects and dealing with the management of hazardous materials and wastes)

Student Speak:
I can give reasons for (explain):
- behavioral standards in the conduct of scientific inquiry involving the sharing and accuracy of data, acknowledgement of sources and following applicable laws (ethical roles and responsibilities of scientists)
- consideration of ethical issues involving animal and human subjects and dealing with the management of hazardous materials and wastes (ethical roles and responsibilities of scientific research).

9-12.S.1.2. Students are able to **evaluate** and **describe** the impact of scientific discoveries on historical events and social, economic, and ethical issues.

Webb Level: 4
Bloom: Evaluation

Verbs Defined:
Evaluate - judge the value of
Describe - tell in words or numbers

Key Terms Defined:
Impact of scientific discoveries - changes caused by findings based on experiments
Historical events - things that happened in the past
Social issues - how people live and interact
Economic issues - ways people trade goods and services
Ethical issues - what is considered to be right or wrong

Teacher Speak:
Students will be able to evaluate (judge the value of) and describe (tell in words or numbers) the impact of scientific discoveries (changes caused by findings based on experiments) on historical events (things that happened in the past) and social issues (how people live and interact), economic issues (ways people trade goods and services), and ethical issues (what is considered to be right or wrong).

Student Speak:
I can judge the value of (evaluate) and tell in words or numbers (describe) changes caused by findings based on experiments (impact of scientific discoveries) on
- things that happened in the past (historical events)
- how people live and interact (social issues)
- ways people trade goods and services (economic issues)
- what is considered to be right or wrong (ethical issues).

9-12.S.2.1. Students are able to **describe** immediate and long-term consequences of potential solutions for technological issues.

Web Level: 4
Bloom: Evaluation

Verbs Defined:
Describe - tell in words or numbers

Key Terms Defined:
Potential solutions - possible corrections
Technological issues-problems related to applications in science

Teacher Speak:
Students will be able to describe (tell in words or numbers) immediate and long-term consequences of potential solutions (possible corrections) for technological issues (problems related to applications in science).

Student Speak:
I can tell in words or numbers (describe) the immediate and long-term consequences of possible corrections (potential solutions) for problems related to applications in science (technological issues).

9-12.S.2.2. Students are able to **analyze** factors that could limit technological design.

Webb Level: 3
Bloom: Analysis

Verbs Defined:
Analyze - separate into parts

Key Terms Defined:
Factors - environmental problems, expenses, manufacturing processes, and ethical issues
Technological design -making products by applying scientific principles

Teacher Speak:
Students will be able to analyze (separate into parts) factors (environmental problems, expenses, manufacturing processes, and ethical issues) that could limit technological design (making products by applying scientific principles).

Student Speak:
I can separate into parts (analyze) how environmental problems, expenses, manufacturing processes, and ethical issues (factors) could limit making products by applying scientific principles (technological design).

9-12.S.2.3. Students are able to **analyze** and **describe** the benefits, limitations, cost, and consequences involved in using, conserving, or recycling resources.

Webb Level: 4
Bloom: Synthesis

Verbs Defined:
Analyze - separate into parts
Describe - tell in words or numbers

Key Terms Defined:
Resources - materials taken from the earth such as minerals, trees, and fuels

Teacher Speak:
Students will be able to analyze (separate into parts) and describe (tell in words or numbers) the benefits, limitations, cost, and consequences involved in using, conserving, or recycling resources (materials taken from the earth such as minerals, trees, and fuels).

Student Speak:
I can separate into parts (analyze) and tell in words or numbers (describe) the benefits, limitations and consequences involved in using, conserving and recycling materials taken from the earth such as minerals, trees, and fuels (resources).